



Civiltech Engineering, Inc.

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Central Business District Streetscape Improvements

Village of Glen Ellyn

February 19, 2020



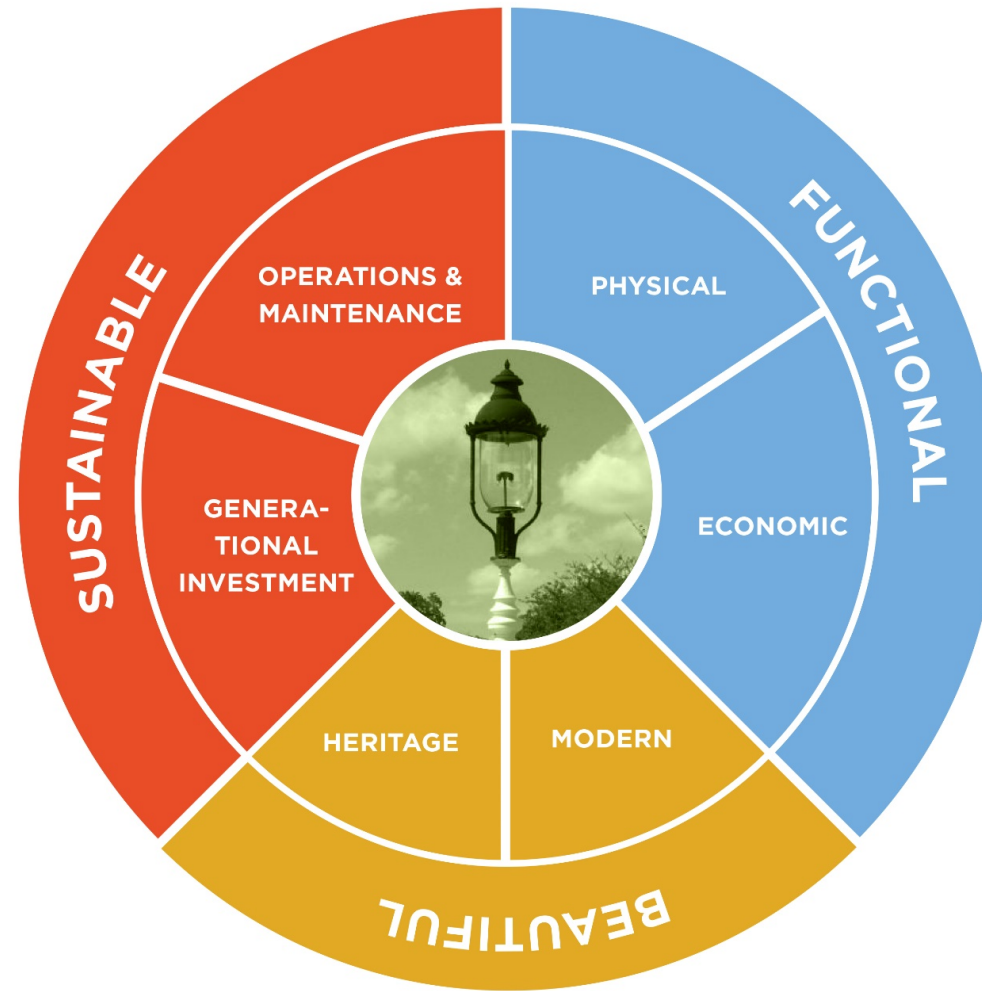
Streetscape improvements are coming to Downtown Glen Ellyn!



- Downtown is important. It's the shopping, dining, entertainment centerpiece for the community
- The streetscape project will bring major improvements to downtown Glen Ellyn including infrastructure upgrades, wider sidewalks, safety and accessibility
- The completed streetscape will enhance the Downtown Glen Ellyn experience



Three elements of a successful streetscape design



Trees are a major part of the downtown streetscape



- Trees are infrastructure – they perform essential functions
- Trees are part of the historic character and fabric of the downtown and larger community
- Trees provide aesthetic and psychological benefits
- Trees are good for retail business

“Today’s shoppers are pursuing places that offer social, memorable experiences. Trees help create place and connect to deeply felt preferences and appreciations that people have for nature. The urban forest can be an important part of the vibrant, satisfying places that shoppers enjoy.”

– K.L. Wolf, PhD – University of Washington

Characteristics of a healthy urban forest



- Diverse species mix
- Access to soil, air and water
- Large robust shade canopies
- Strong tree limbs – less danger of dropping unexpectedly during storms
- Urban trees are part of an overall ecosystem and provide numerous benefits such as:
 - Evapotranspiration
 - Reduced stormwater runoff
 - Reduced urban heat island effect
 - CO2 absorption



Challenges to a healthy urban forest

- Every generation has a blight that affects a particular species of street trees
- A healthy urban forest will have no more than 10% of any one species. When the next disease, drought or invasive bug invasion occurs, the loss of one species will not dramatically change the street character



Ideal Biodiversity



Asian Longhorned Beetle



Oak Wilt Disease



Emerald Ash Borer



Chestnut Blight of 1950

Current conditions of Glen Ellyn's urban forest



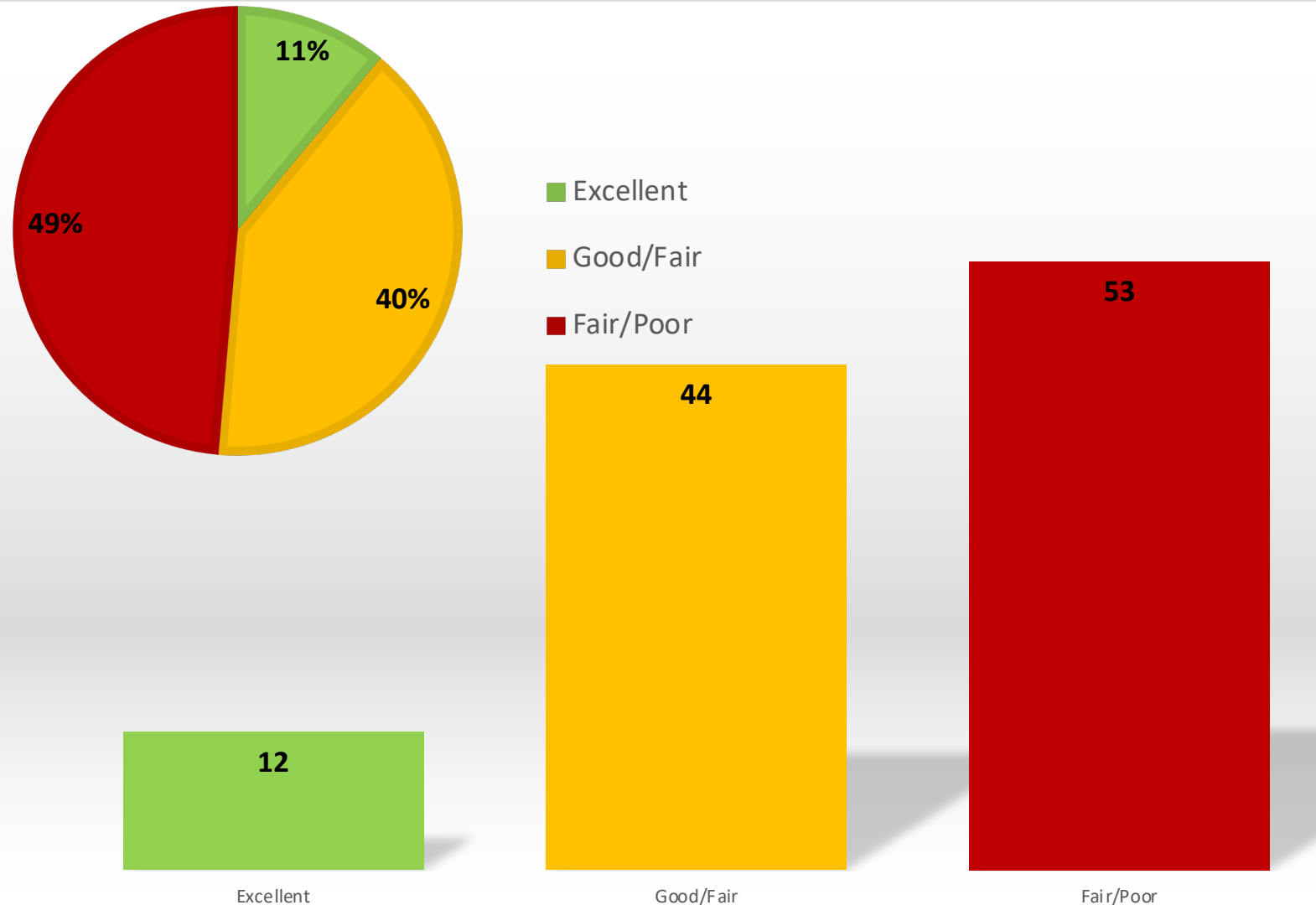
2015 – 2020 Glen Ellyn downtown tree assessment conducted by Osage.



Each of the 109 downtown trees were evaluated based on:

- Size
- Species
- Condition
- Recommendations for removal and replacement

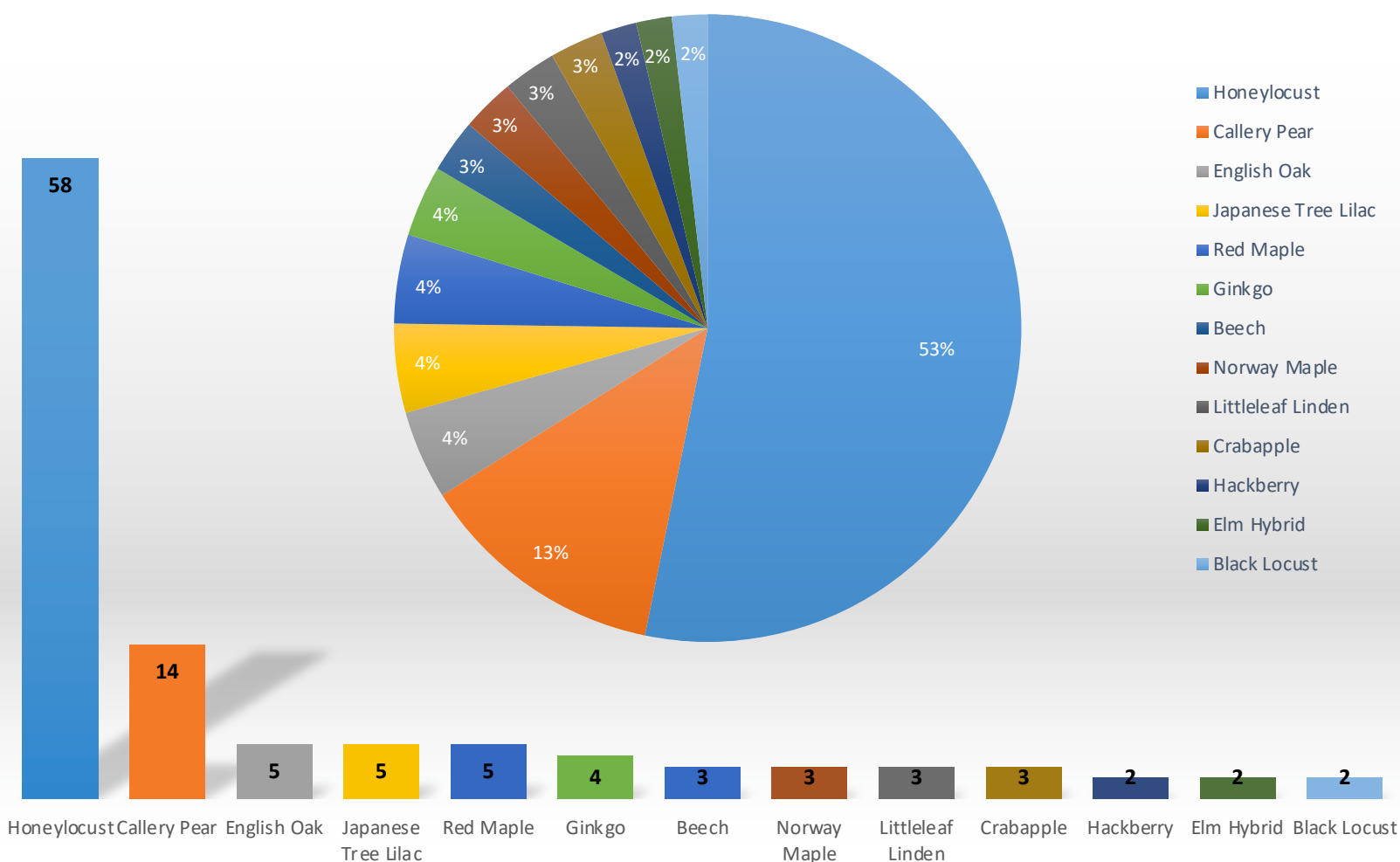
Current conditions of Glen Ellyn's urban forest



109 trees were evaluated

- Species mix is heavily skewed to just two species
- 49% of trees are in fair to poor condition

Current conditions of Glen Ellyn's urban forest



66% of the 109 downtown trees are one of two species

53% of existing trees are Honeylocust

13% of existing trees are Callery Pear*

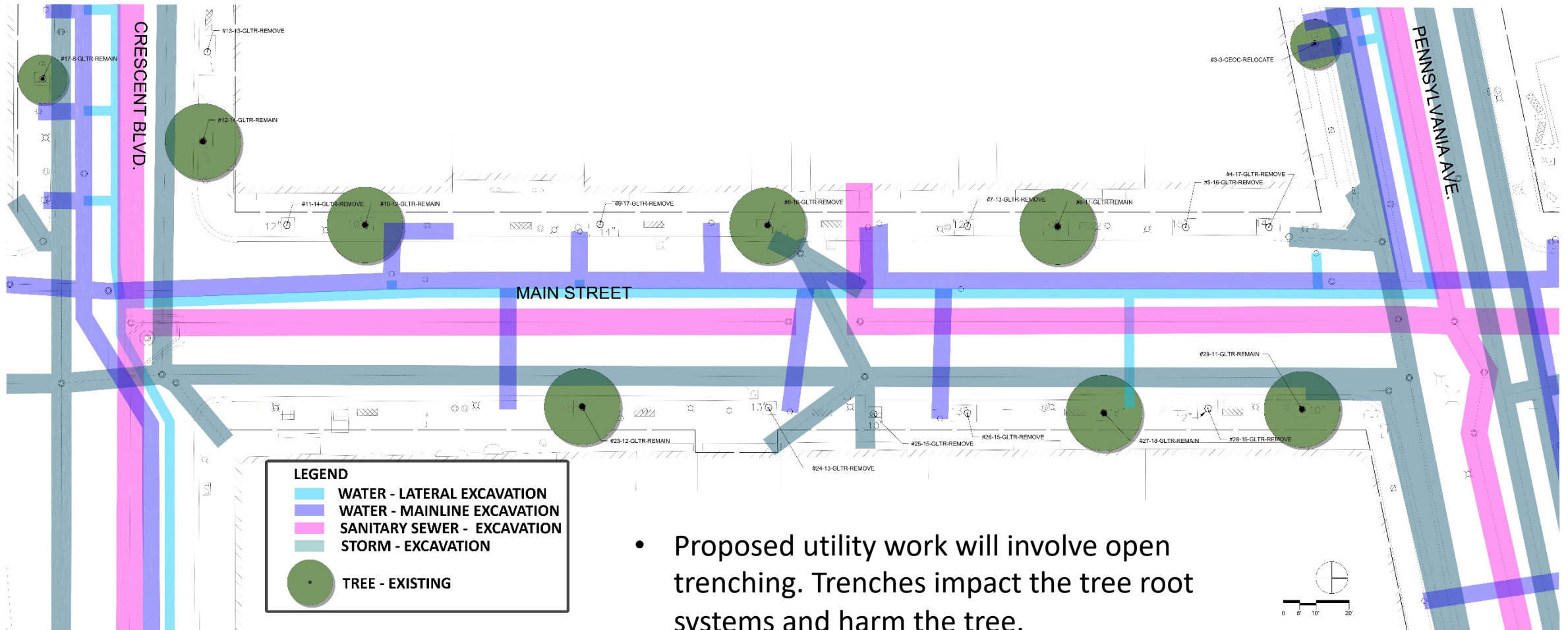
Callery Pear has invasive traits and may be listed on official invasive species lists in the near future. This tree is also susceptible to gray mold and wood rots and may be targeted by insects such as the Eastern tent caterpillar. Callery Pear is weak wooded and susceptible to ice storm damage. - Morton Arboretum

Why are so many trees in fair/poor condition?



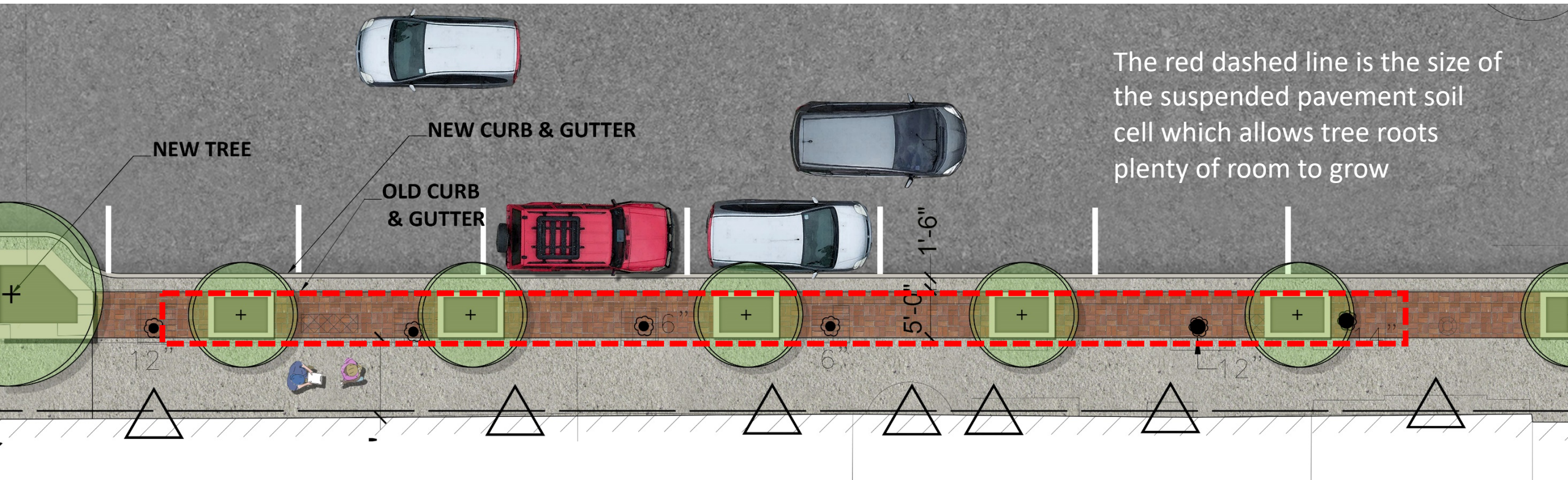
- Limited room for roots to grow – relatively small tree pits
- Compromised growing conditions - Lack of access to soil, water and air
- Large mature trees are showing evidence of decline
- Downtown trees are reaching the limits of their useful landscape value
- Construction impacts existing root systems and puts an enormous amount of stress on trees

Many existing trees will conflict with underground utility improvements



- Proposed utility work will involve open trenching. Trenches impact the tree root systems and harm the tree.

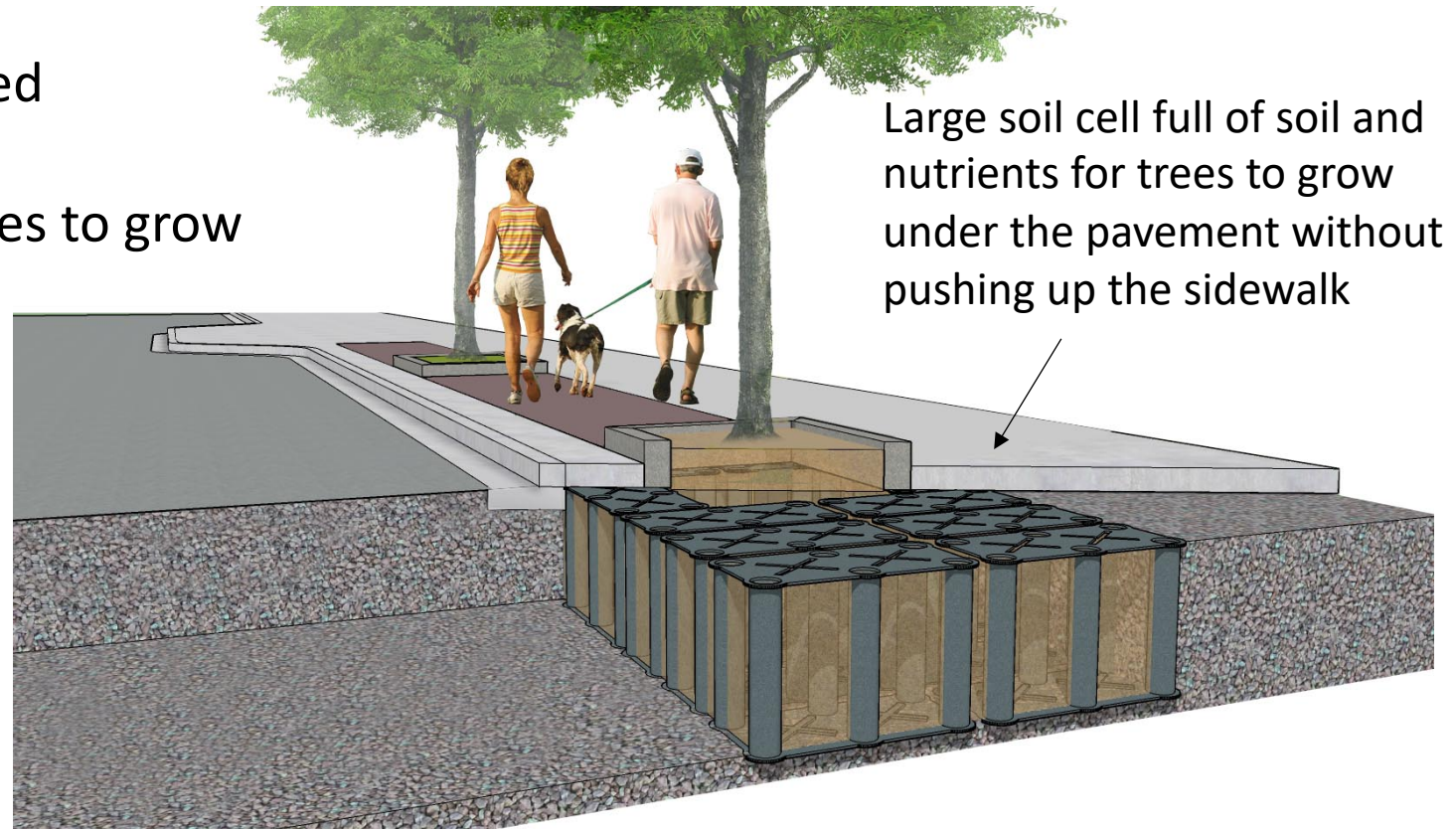
Recommendation: replace existing trees



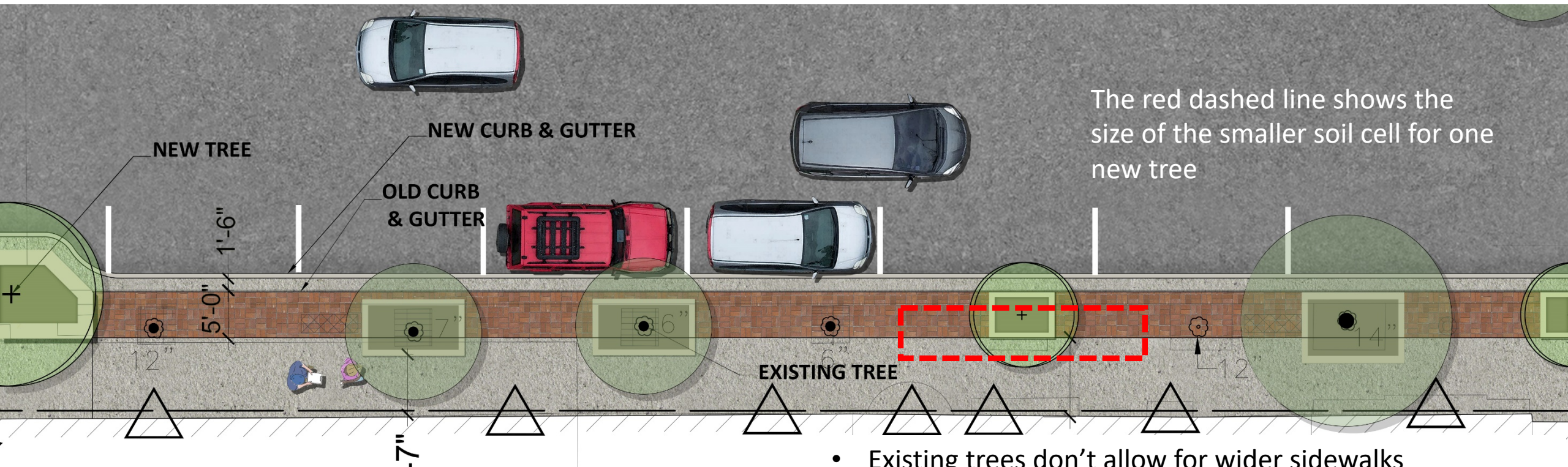
- New trees can be planted in improved conditions using a suspended pavement design
- New trees can be moved several feet away from buildings
- New trees can be strategically placed to avoid store and car doors
- New trees will allow the Village to diversify the species

New trees in Glen Ellyn will have big advantages

- Suspended Pavement Design
 - Larger root volume
 - Access to uncompacted soil and air
- Irrigation Systems – access to water
- Protection from de-icing agents (raised planters)
- Wider sidewalks = more room for trees to grow



What if we were to keep some trees?



- Existing trees would require enlarged planter boxes that occupy more sidewalk and won't align with proposed geometry
- Existing trees will remain in current poor growing conditions
- Existing trees don't allow for wider sidewalks
- When existing trees are eventually replaced, they won't have the soil cell that the new trees have
- There is no guarantee that the existing trees will survive construction

What will the new trees look like?

EXISTING



NEW TREES



Renderings illustrate that over time, new trees will grow fast, while existing trees will continue to decline and be replaced on an individual basis.

Most new trees will be a 1.5"-3" caliper when planted with an approximately 8' canopy.

NEW TREES IN FIVE YEARS

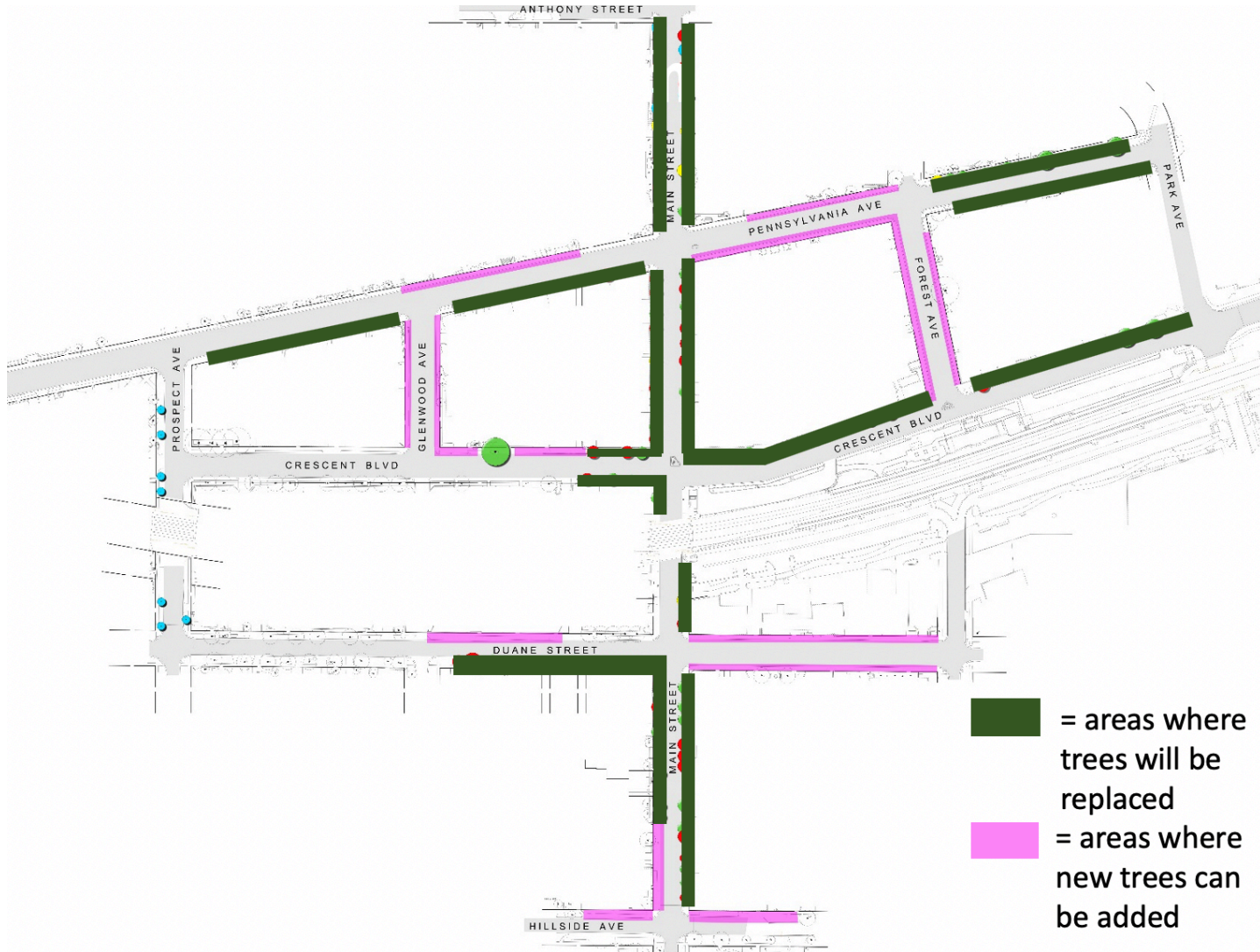


NEW TREES IN FIFTEEN YEARS



Some large trees will be planted in strategic locations. Those will have an approximate 6" caliper with a 12'-15' canopy.

The streetscape will add more trees to downtown



- Pink areas show where there are currently no trees. The new streetscape will allow for approximately **100-115 additional trees to be planted** in good growing conditions where there are none now.
- New trees will improve the species diversity
- Alignment with new design and geometry
 - Ideal spacing between trees
 - Placement in relation to retail entrances
 - Placement in relation to parking stalls
- Accelerated growth rates due to improved conditions

Holiday lighting



Holiday lights are currently placed in the canopies of existing trees, some of them are left up year-round.

This process is hard on existing trees.

Holiday lights can be placed in the canopies of new trees that are still young, but this will have a reduced visual impact.

The Village is exploring alternatives for holiday lighting that won't involve putting lights in the tree canopy.

Alternatives to current holiday lighting



Rochester Hills, MI



Vienna, Austria



Moscow, Russia



Gatlinburg, TN



Warsaw, Poland



Milwaukee, WI

Alternatives to current holiday lighting



Recommendation summary

- 14 of 109 existing trees are on the perimeter of downtown and will remain with minimal impact to their health
- The remaining trees will be replaced in better growing conditions, further away from buildings, and with a better species diversity to protect against bugs and disease
- Approximately 100-115 additional trees will be planted in areas where there are no trees now
- When the streetscape is complete, the **total number of trees downtown will be approximately 185-225**, almost doubling the current amount of trees downtown.